

Abstract

The present invention is the method to trap reliably the reaction intermediates of an oxidoreductase, such as cytochrome-c oxidase.

5 The present invention is a method for trapping reaction intermediates of an oxidoreductase comprising the steps of:

(the first step) dissolving an oxidoreductase, a photoinduced reducing agent that releases electrons by light-irradiation, amine-type electron donor and a substrate for said oxidoreductase in water and mixing these;

10 (the second step) cooling the mixture prepared in the first step to 70~270K to be frozen;

(the third step) irradiating the frozen mixture prepared in the second step at 70~270K with a light in a wavelength region including the absorbing wavelength of said photoinduced reducing agent; and

15 (the fourth step) raising the temperature of the frozen mixture prepared in the third step to the temperature of 80~270K that is higher than the temperature of the third step.